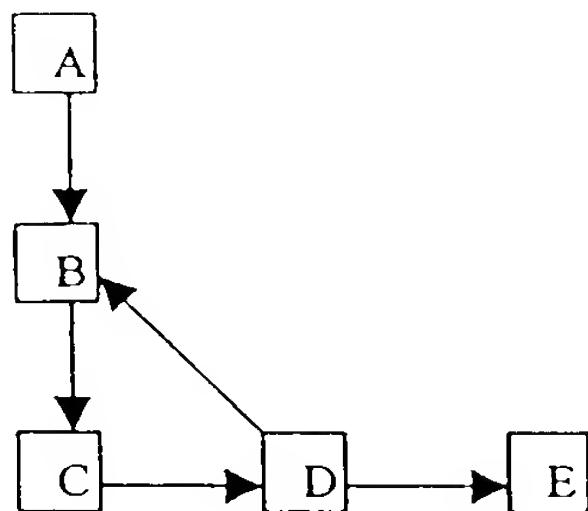Figure 1: Proposed mechanistic advantages of BRCA1 inactivation. Genes A to H display reproducibly altered expression patterns following BRCA1 induction. Arrows pointing up indicate increases in expression, and arrows pointing down indicate decreases in expression. The directionality of these arrows is opposite to that of the expression changes observed following BRCA1 induction; they are meant to indicate the putative effects of BRCA inactivation.
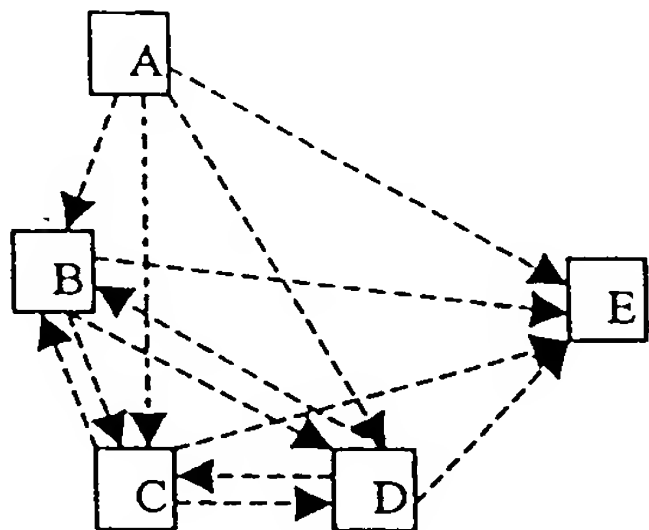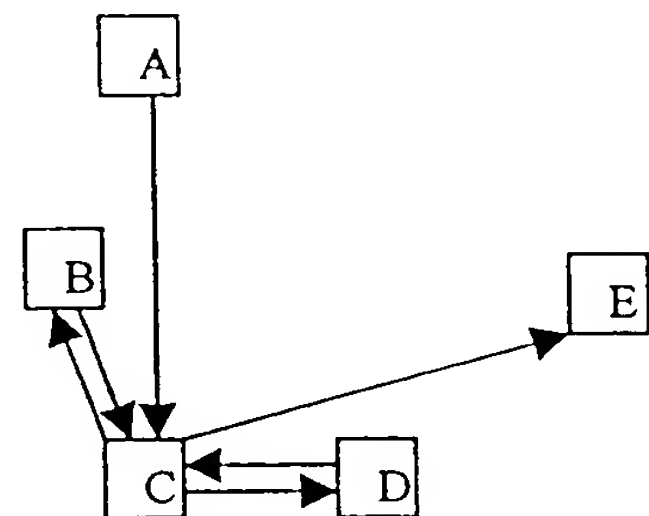
a. True Graph G

b. Connectivity Data for G

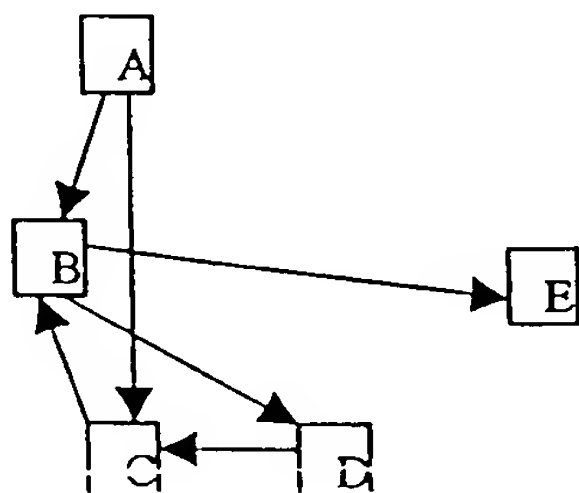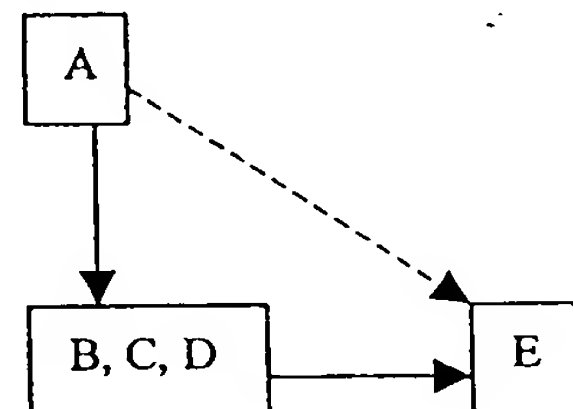|		Expressed Genes				
		A	B	C	D	E
Induced Gene	A	1	1	1	1	1
	B	0	1	1	1	1
	C	0	1	1	1	1
	D	0	1	1	1	1
	E	0	0	0	0	1

c. Transitive Closure G*

d. A Graph compatible with Data
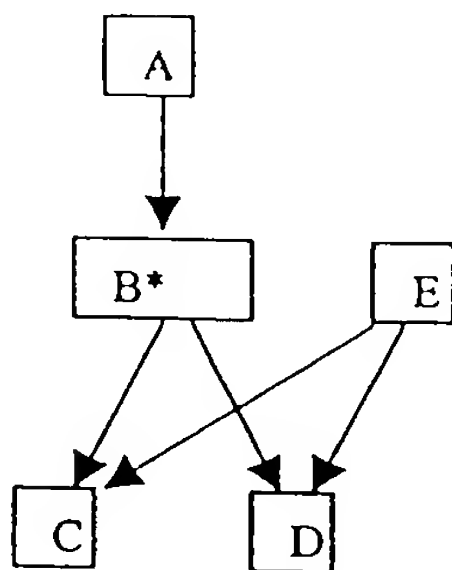

e. A Graph compatible with Data

f. G* reduced to condensed graph

Solid arrows are required by the data.
Dashed arrows cannot be excluded by
the data.

Figure 2: Edges transmit changed expression levels
with high reliability. Many graphs are compatible
with the data, but all such graphs are subgraphs of the
transitive closure graph G*.

a. True Graph G, B regulated by A not by expression.

b. Connectivity Data for G

	Expressed Genes				
	A	B	C	D	E
A	1	0	1	1	0
B	0	1	1	1	0
C	0	0	1	0	0
D	0	0	0	1	0
E	0	0	1	1	1

(Induced Gene — row labels)
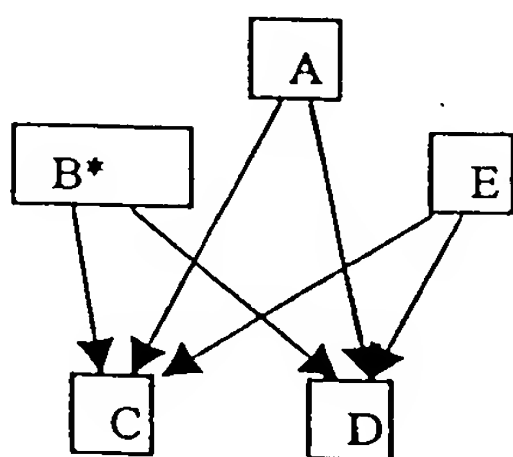
c. Transitive Closure G*

Figure 3: Interactions not at level of expression are concealed in the connectivity graph. Genes B* (regulated by A), E (not regulated by A), and A are indistinguishable at the expression level.